[0014]   **FIG. 2** is a perspective diagram of a mouse, in accordance with one embodiment of the present invention.

[0015]   **FIG. 3** is a side view of a mouse, in accordance with one embodiment of the present invention.

[0016]   **FIG. 4** is a top view of a mouse, in accordance with one embodiment of the present invention.

[0017]   **FIG. 5** is a side view of a mouse with a click action body, in accordance with one embodiment of the present invention.

[0018]   **FIG. 6** is an illustration of a mouse being held by the hand of a user, in accordance with one embodiment of the present invention.

[0019]   **FIG. 7** is a side view, in cross section, of a mouse, in accordance with one embodiment of the present invention.

[0020]   **FIG. 8A** is a side view of a rotary disc, in accordance with one embodiment of the present invention.

[0021]   **FIG. 8B** is a bottom view of a rotary disc, in accordance with one embodiment of the present invention.

[0022]   **FIG. 9** is a top view of a rotary disc, in accordance with one embodiment of the invention.

[0023]   **FIG. 10** is a diagram showing the interaction of the mouse with a GUI interface on a display screen, in accordance with one embodiment of the present invention.

DESCRIPTION OF THE INVENTION

[0024]   Embodiments of the invention are discussed below with reference to FIGS. **2-10**. However, those skilled in the art will readily appreciate that the detailed description given herein with respect to these figures is for explanatory purposes as the invention extends beyond these limited embodiments.

[0025]   **FIG. 2** is a perspective diagram of a mouse **40**, in accordance with one embodiment of the invention. The mouse **40** is a user operated input device for moving a cursor or pointer on a display screen. By way of example, the input pointer may be displayed via a Graphical User Interface (GUI) on a display screen. In general, the mouse **40** is configured to provide positional information, which corresponds to the movement of the mouse along a surface, to a computer system that includes the display screen. The positional information is used by the computer system to move the cursor or pointer on the display screen of the display monitor. For example, when the mouse is moved forward, the cursor is moved vertically up on the screen. By way of example, the computer system may correspond to a general purpose computer such as a desktop computer or a portable computer.

[0026]   The mouse **40** includes a mouse housing **42** and a rotary dial **44**. The mouse housing **40** provides a structure for moving the mouse along a surface and for gripping the mouse **40** for movement thereof. The mouse housing **42** is also configured to enclose and support the internal components of the mouse **40**. For example, the mouse housing **42** may contain the electronics that generate positional information associated with moving the input pointer on the display screen. The mouse housing generally defines the

shape or form of the mouse **40**. That is, the contour of the mouse housing **42** may embody the outward physical appearance of the mouse **40**.

[0027]   The rotary dial **44**, on the other hand, is configured to provide a control function (or functions) for performing an action (or actions) on a display screen. In general, the rotary dial **44** is arranged to rotate around an axis in order to implement the control function. The control function may be implemented incrementally or continuously during rotation of the rotary dial. The control function may be widely varied. For example, the control function may be used to control various applications associated with the computer system to which the mouse is connected.

[0028]   In one embodiment, the control function corresponds to a scrolling feature. The term "scrolling" as used herein generally pertains to moving displayed data or images (e.g., text or graphics) across a viewing area on a display screen so that a new set of data (e.g., line of text or graphics) is brought into view in the viewing area. In most cases, once the viewing area is full, each new set of data appears at the edge of the viewing area and all other sets of data move over one position. That is, the new set of data appears for each set of data that moves out of the viewing area. In essence, the scrolling function allows a user to view consecutive sets of data currently outside of the viewing area. The viewing area may be the entire viewing area of the display screen or it may only be a portion of the display screen (e.g., a window frame).

[0029]   The direction of scrolling may be widely varied. For example, scrolling may be implemented vertically (up or down) or horizontally (left or right). In the case of vertical scrolling, when a user scrolls down, each new set of data appears at the bottom of the viewing area and all other sets of data move up one position. If the viewing area is full, the top set of data moves out of the viewing area. Similarly, when a user scrolls up, each new set of data appears at the top of the viewing area and all other sets of data move down one position. If the viewing area is full, the bottom set of data moves out of the viewing area. In one implementation, the scrolling feature may be used to move a Graphical User Interface (GUI) vertically (up and down), or horizontally (left and right) in order to bring more data into view on a display screen. By way of example, the scrolling feature may be used to help perform internet browsing, spreadsheet manipulation, viewing code, computer aided design, and the like. The direction that the dial rotates may be arranged to control the direction of scrolling. For example, the dial may be arranged to move the GUI vertically up when rotated counterclockwise, and vertically down when the rotated clockwise (or vice versa).

[0030]   The rotary dial **44** generally includes a circular face **48**, which is engageable to a user during manipulation thereof. In the illustrated embodiment, the engageable face **48** is completely exposed to the user, i.e., the engageable face **48** is not covered by any portion of the mouse housing **42**. As such, the rotary dial **44** can be continuously rotated by a simple swirling motion of a finger, i.e., the disc can be rotated through 360 degrees of rotation without stopping. Furthermore, the user can rotate the rotary dial **44** tangentially from all sides thus giving it more range of finger positions than that of a traditional scroll wheel as shown in **FIG. 1**. For example, when the mouse **40** is being held, a left